

Claims:

1.

An apparatus for blow molding a fuel tank, comprising:

a mold defining a mold cavity and having an opening communicating with the mold cavity;

a blow pin through which a pressurized gas may flow, the blow pin being movable between an extended position received at least in part in the opening in the mold and communicating with the mold cavity and a retracted position removed from the mold cavity; and

a pinch plate assembly movable between an open position spaced from the opening of the mold and a closed position adapted to engage fuel tank material in the area of the opening and close the material on itself forming a seam, whereby an opening in a blow molded fuel tank, created by the blow pin during the blow molding process, is closed.

2.

The apparatus of claim 1 which also comprises a blow pin assembly associated with the mold and including the blow pin, a blow pin guide movable relative to the mold between first and second positions and having a passage in which the blow pin is received for reciprocation between its extended and retracted positions, and at least one actuator which moves the blow pin guide.

3.

The apparatus of claim 2 which also comprises an arm driven for linear reciprocation by the actuator to move the blow pin guide between its first and second positions.

4.

The apparatus of claim 3 which also comprises a block carried by the arm and wherein the blow pin guide has a ramp surface along which the block travels as the arm is reciprocated so that as the block is moved with the arm in at least one direction it provides a force acting on the ramp surface to move the blow pin guide.

5.

The apparatus of claim 3 wherein the when the arm is moved so that the block travels upwardly on the ramp surface a force is provided acting on the blow pin guide to move it downwardly.

6.

The apparatus of claim 1 wherein the pinch plate assembly includes a pair of pinch plates having generally opposed leading faces and being moveable from an open position with the leading faces spaced from each other to a closed position wherein the leading faces are closer together than in the open position so that the leading faces engage and seam fuel tank material as the pinch plates are moved toward their closed position.

7.

The apparatus of claim 6 wherein the leading faces of the pinch plates are serrated.

8.

The apparatus of claim 6 wherein the leading faces of the pinch plates are undulated.

9.

The apparatus of claim 1 wherein the blow pin is diamond shaped in cross section.

10.

The apparatus of claim 1 which also comprises at least one actuator associated with the pinch plate assembly to drive the pinch plate assembly between its open and closed positions.

11.

The apparatus of claim 6 wherein the blow pin guide has a neck disposed at least in part between the pinch plates when the blow pin guide is in its first position to prevent the pinch plates from moving to their closed position when the blow pin guide is in its first position.

12.

The apparatus of claim 1 wherein the pinch plate assembly includes at least one trim blade adapted to engage flash outboard of the seam created by the pinch plate assembly.

13.

The apparatus of claim 6 wherein the pinch plate assembly includes at least one trim blade carried by a pinch plate to engage flash outboard of the seam created by the pinch plate assembly.

14.

The apparatus of claim 1 which also comprises a carrier arm received at least in part in the blow pin and being movable between an extended position received at least in part in the mold cavity and a retracted position removed from the mold cavity.

15.

The apparatus of claim 6 wherein when the pinch plates are in their open position the blow pin can be received between the leading edges of the pinch plates to permit the blow pin to enter the opening of the mold.

16.

The apparatus of claim 6 which also comprises a pair of actuators, each actuator associated with a separate one of the pinch plates to move said

associated pinch plate relative to the other pinch plate providing said open and closed positions of the pinch plate assembly.

17.

The apparatus of claim 6 wherein the pinch plate assembly includes a guide plate spaced from the mold and adapted to guide the movement of and support the pinch plates.

18.

A method for blow molding a fuel tank comprising the steps of:

- a) placing a parison within a mold defining a mold cavity;
- b) providing a blow pin in communication with an interior of the parison and providing a pressurized gas into the parison forcing the parison against the mold in the mold cavity;
- c) removing the blow pin from the fuel tank material leaving an opening in the fuel tank material;
- d) moving pinch plates from an open position to a closed position to engage the fuel tank material around said opening in the fuel tank material and close said opening; and
- e) removing the molded fuel tank from the mold cavity.

19.

The method for blow molding a fuel tank of claim 18 wherein each pinch plate is connected to a separate actuator, the actuators move the pinch

plates toward each other to pinch the fuel tank material in the area of the opening to close the opening in the fuel tank material.

20.

The method for blow molding a fuel tank of claim 18 wherein the pinch plates have leading edges that are serrated resulting in the formation of a non-linear seam.

21.

The method for blow molding a fuel tank of claim 18 wherein following the step of removing the molded fuel tank, the pinch plates are moved to the open position and the blow pin is moved at least in part into the mold cavity.

22.

The method for blow molding a fuel tank of claim 18 wherein the step of removing the molded fuel tank further includes the step of removing flash from the area of the fuel tank where the opening was closed by the pinch plates.

23.

The method for blow molding a fuel tank of claim 18 wherein the step of moving the pinch plates to a closed position to close the opening in the molded fuel tank is performed when the material is in a semi-solid state capable of flowing to form the seam.